Amended Claims With Mark-ups to Show Changes Made

1. (Amended) An apparatus for controlling cooling of a gantry having at least one [a] linear motor comprising:

at least one [a] stator comprising [provided with] a first temperature sensor, [having] a heat sink and a cooling fan at predetermined portions of the at least one stator [an X-axis and an Y-axis linear motors];

at least one [a] mover comprising [provided with] a second temperature sensor, and [having] a heat sink installed on the upper surface of the at least one mover [an X-axis and an Y-axis liner motors];

an encoder configured for sensing at least one of a position and velocity of the at least one mover;

an encoder periphery sensor attached proximate to the encoder and configured [part] for measuring at least one of a surrounding [surroundings (a] temperature, [a] humidity and [a] pressure[) of the encoder];

an A/D converter configured for receiving a first temperature signal and a second temperature signal [signals] and converting the first and second temperature signals [them] from [an] analog signals [signal] to [a] digital signals [signal] and outputting the digital signals [same];

at least one mover driver configured to provide a drive signal to a coil block attached to the mover;

a controller configured for controlling a drive signal outputted from the mover driver to control the velocity of the [Y-axis linear motor and the X-axis] at least one linear motor; and

a D/A [D/V] converter configured for converting [digital signals,] at least one of [that is] a cooling fan control digital signal [and an air valve control signal] to [a plurality of] an analog drive signal [signals, that is, analog signals; and

a mover driver for providing the drive signal to a coil block].

2. (Amended) The apparatus of [according to] claim 1, wherein the encoder comprises [includes] an indication member for indicating [a] position information of the at least one [a] mover and an optical sensor for reading the position information. [of the mover as indicated at the indication member];

3. (Amended) The apparatus of [according to] claim 1, wherein the at least one mover further comprises a [includes an air] nozzle [installed at a predetermined distance and] connected to an [with the] air valve and configured to cool the at least one mover [at one side thereof], wherein the D/A converter is further configured to receive an air valve control digital signal and produce an analog drive signal to control the air valve.

4. (Amended) A method for controlling cooling of a gantry having at least one linear motor, comprising [the steps of]:

operating at least one mover and at least one stator of the at least one linear motor;

measuring temperatures of the at least one mover and the at least one stator [an X-axis and a Y-axis stators (Txs, Tys) by means of temperature sensors];

storing the measured temperatures [temperature (Txs, Tys, Txm and Tym) on the stators and movers and];

comparing the measured temperatures [them] with a pre-set temperature value [the pre-set temperature, that is, the comparative value];

[storing the temperature information (Txs, Tys, Txm and Tym), comparing them with the comparative value of the pre-set temperature, and] computing a difference between the pre-set temperature value and the measured temperatures if [them in case that] the measured temperatures [(Txs, Tys, Txm and Tym)] are greater than the pre-set temperature value [comparative value];

computing a temperature gain corresponding to the computed temperature difference; and

driving at least one of a [first and second] cooling fan [fans 14a and 14b] and an air valve [33] as long as the temperature gain is greater than a pre-set gain value[, to perform cooling].

5. (Amended) A method for controlling cooling of a gantry comprising at least one linear motor having a stator and a mover, comprising [the steps of]:

operating the [a] mover in accordance with a movement command;

measuring at least one of a position and a velocity of the mover with an encoder;

making a first measurement of at least one of environmental [measuring peripheral environment (] temperature, humidity and pressure;

determining first temperature values [measuring temperatures] of the stator and the mover [an X-axis and a Y-axis stators (Txs, Tys) and temperature of X-axis and a Y-axis movers (Txm, Tym)];

storing the first [measured the values of the] temperature values [information (Txs, Tys, Txm and Tym) and];

comparing the first temperature values [comparing them] with a pre-set [comparative] value;

computing a temperature difference between the first temperature values and the pre-set value in the case that at least one of the first [measured values of the] temperature values [information (Txs, Tys, Txm and Tym) are] is greater than the pre-set [comparative] value;

computing a temperature gain from the temperature difference;

driving at least one of a [first and a second] cooling fan [fans] and an air valve in accordance with the temperature gain;

determining second temperature values of the stator and the mover;

storing the second temperature values;

comparing the second temperature values with the pre-set value; and

[comparing again the values of the temperature information (Txs, Tys, Txm and Tym) and the comparative value, after cooling; and]

correcting [the] a movement command if at least one of [to the movers in case that] the second temperature values [of the temperature information (Txs, Tys, Txm and Tym) are] is greater than the pre-set [comparative] value.

6. (Amended) The method of [according to] claim 5, wherein if at least one of the second temperature values is less than the pre-set value, [in the step of comparing again the values of the temperature information (Txs, Tys, Txm and Tym) and the comparative value, in case that the values of the temperature information (Txs, Tys, Txm and Tym) are smaller than the comparative value upon comparing, it returns] then the method returns to [the step for] measuring at least one of a position and a velocity of the [an] encoder.